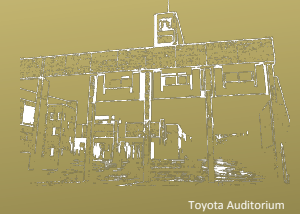




# Stress-related growth, acquired resilience, and perceived available support: A longitudinal study

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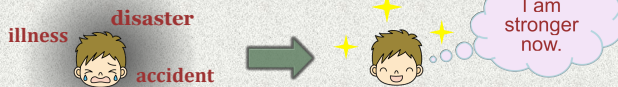


## Introduction

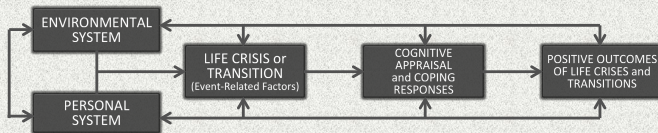
### Purpose of this study

- Stress-related growth refers to the ability to grow beyond one's previous level of psychological functioning in response to a stressful life event.
- This longitudinal study examines the relationships between stress-related growth following interpersonal stress, acquired resilience, and perceived available support.

### Stress-related growth



**Stress-related growth:** positive psychological changes experienced as a result of the struggle during stressful events (Park & Helgeson, 2006; Taku et al., 2007).



**Figure 1** A Conceptual Model for Understanding Positive Outcomes of Life Crises and Transitions (Schaefer & Moos, 1992)

- Three general categories of positive outcomes (Schaefer & Moos, 1992):
  - Enhanced social resources (e.g., formation of new support networks).
  - Enhanced personal resources (e.g., self-reliance and self-understanding).
  - Development of new coping skills (e.g., problem solving and help-seeking skills).

### Acquired resilience

- Resilience is a characteristic of everyone, but some aspects of resilience are easy to imbibe, whereas others are not (Hirano, 2010).

#### Acquired resilience

Attempting to solve a problem    Self-understanding    Understanding to others

#### Innate resilience

Optimism    Control    Sociability    Vitality

### Hypothesis

**Acquired resilience and perceived available support increase when stress-related growth occurs.**

## Methods

### Procedures and participants

- Data were collected on two occasions, separated by 2-3 months (T1: Dec 2012, T2: Feb 2013).
- We analyzed data collected from 107 undergraduate students (Male = 49, Female = 58, Age = 19.73 ± 0.93 years) who participate both times.

### Measures

- Perceived available social support (Fukuoka, 1999)
- Bidimensional Resilience Scale (BRS; Hirano, 2010)
- The Scale of Interpersonal Stressor (SIS; Hashimoto et al., 2005)
- The posttraumatic growth inventory Japanese version (PTGI-J; Taku et al., 2007).

## Results

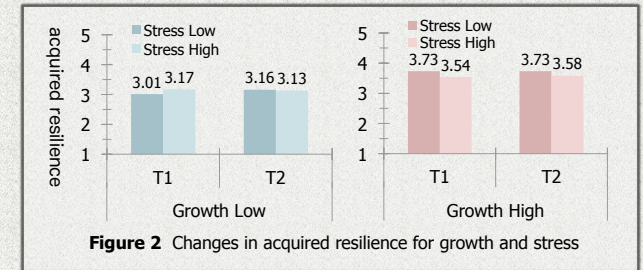
### Descriptive statistics and correlations

		M±SD	α	①		②		③		④	
				T1	T2	T1	T2	T2	T2	T2	T2
①support availability	T1	4.26±0.87	.88	-							
	T2	4.17±0.95	.92	.77***	-						
②acquired resilience	T1	3.38± 0.70	.84	.27**	.24*	-					
	T2	3.40± 0.65	.85	.23*	.27**	.69***	-				
③interpersonal stressor	T1	2.35±0.40	.83	-.01	-.09	.04	-.06	-			
	T2	2.49±0.88	.92	.37***	.37***	.50***	.50***	-.06	-		

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

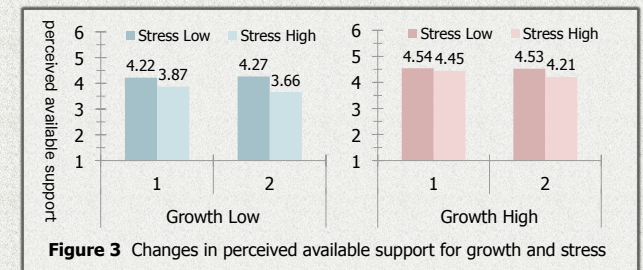
### Changes in acquired resilience for growth and stressor

- A 2 (stressor: low frequency, high frequency) × 2 (growth: low, high) × 2 (time: T1, T2) mixed-design analysis of variance (ANOVA) was conducted.
- Main effect of growth:  $F(1, 103) = 23.10, p < .001$ .
  - Higher growth was related to higher acquired resilience (Higher growth group  $M = 3.65$ , Lower growth group  $M = 3.12$ ; Figure 2).
- Interaction, main effects of stressor and time are none.



### Changes in perceived available support for growth and stressor

- A 2 (stressor: low frequency, high frequency) × 2 (growth: low, high) × 2 (time: T1, T2) mixed-design analysis of variance (ANOVA) was conducted.
- Interaction of stressor x time:  $F(1, 103) = 4.20, p < .05$ .
  - Among people with higher stressor, the perceived available support was significantly lower at the end of the two months. (T1  $M = 4.10$ , T2  $M = 3.88$ ; Figure 3).



## Conclusions

- Contrary to our expectation, the interaction that included time was not statistically significant. However, acquired resilience was positively correlated with stress-related growth.
- Having stressful interpersonal relationships has a commonality perceiving less available support.

## Stress-related growth, acquired resilience, and perceived available support: A longitudinal study

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### Measures

**Perceived available social support.** The Scale of perceived social support was developed by Fukuoka (1997, 1999). This scale is a measure of the perceived availability of support from friends and family. Examples of items are, “My family and friends listen to my problems.” and “My family and friends pick me up when I’m down”. Items were rated on a six-point Likert scale, ranging from 1 (not at all) to 6 (a very great degree).

**Bidimensional Resilience Scale.** This scale was developed using Cloninger’s Temperament/Character model (TCI) as the criteria to consider separately the innate factors and acquired factors of resilience. describe participants’ potential behaviors and attitudes in response to future stressors (Hirano, 2010). The acquired resilience scale consists of 9 items and includes three-subscale: attempting to solve a problem, self-understanding, and understanding to others. Examples of items are, “When negative event occurs, I collect a variety of useful information to solve it”, “I understand of my own personality”, and “I treat someone with kindness”. Participants are required to give a numerical response based on a five-point Likert-scale indicating their agreement with each sentence (1 = *strongly disagree*, 2 = *disagree*, 3 = *no opinion* 4 = *agree*, 5 = *strongly agree*).

**Scale of Interpersonal Stressor.** The Scale of Interpersonal Stressor (SIS) was developed by Hashimoto (2005). This scale is a measure of the frequency of interpersonal stressor experiences and consists of three subscales, each with six items: Interpersonal Conflict (e.g., “I was insulted or ridiculed by others”), Interpersonal Blunders (e.g., “I was not able to perform my responsibilities toward another/others”), and Interpersonal Friction (e.g., “I tolerated problems I had with another/others, even though I wanted to point them out”), with responses made on a 4-point scale with 1 indicating *not at all* and 4 indicating *often*.

**Posttraumatic growth Inventory.** This scale, originally developed by Tedeschi and Calhoun (1996; PTGI) and translated into Japanese by Taku, Calhoun, Tedeschi, Gil-Rivas, Kilmer, and Cann (2007; PTGI-J), is a measure the degree of positive change experienced in the aftermath of a stressful event. Growth was assessed using the three subscales of PTGI-J: Relating to Others (six items), New Possibilities (four items), Personal Strength (four items). The instructions to the participants were to “Indicate for each of the statements below the degree to which this change occurred over the past month, which is the event/experience you described above, using the following scale”. Items were rated on a six-point Likert scale, ranging from 0 (not at all) to 5 (a very great degree).

### Examples of item (Posttraumatic growth inventory)

Relating to Others	I better accept needing others. / I more clearly see that I can count on people in times of trouble.
New Possibilities	I developed new interests. / I established a new path for my life.
Personal Strength	I discovered that I’m stronger than I thought I was. / I know better that I can handle difficulties.

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